B & K Model 467 Rejuvenator Repair Log
By Doug Burridge

Unit # 1
SYMPTOM: Could not set blue cutoff. Associated transistors for this color tested good.
CAUSE: Resistor R46 (620k @ 1 watt) was open.
SOLUTION: Replaced R46, calibrated unit, and tested.

Unit # 2
SYMPTOM: Unable to set heater voltage.
CAUSE: Reflowed solder joints and checked. However, meter still seemed "jumpy". Hooked DMM to pins 1 & 2 of Molex connector and set to AC. Turned power on and was able to set heater to exactly 6.3 volts (calibration procedure, bypasses meter and used DMM instead). Suspect faulty meter.
SOLUTION: Replaced meter and was able to adjust heater.

SYMPTOM: All G2 controls unresponsive.
CAUSE: Bad IC2 (7400 chip).
SOLUTION: Removed IC2 and installed a socket and new 7400 chip. All functions now working.

Unit # 3
SYMPTOM: Works good, but could not set tracking. Controls unresponsive.
CAUSE: Bad transistor at Q10 (PN3643, added by Ken Layton).
SOLUTION: Replaced Q10, recapped, calibrated, and tested.

Unit # 4
SYMPTOM: Could not set cutoff.
CAUSE: Found and repaired pad lifted from trace. Tested, could set all but blue cutoff. This unit had multiple repairs done prior to this repair, as there were several stickers on this inside of the unit. Lots of McGivers. There are parts soldered on each side of the PCB. UNIT STILL UNDER REPAIR.

Unit # 5
SYMPTOM: Could not set G1 voltage.
CAUSE: Inspected all connector header pins. Found numerous broken solder joints.
SOLUTION: Reflowed solder on entire PCB, recapped, calibrated, and tested.

Unit # 6
SYMPTOM: Permanent heater short.
CAUSE: Bad solder joints on board.
SOLUTION: Reflowed solder joints on entire PCB. Problem solved.

SYMPTOM: Cannot set cutoff.
CAUSE: Resistor R41 drifted way out of specification.
SOLUTION: Replaced R41 (470K @ ½ watt), calibrated, and tested.

Unit # 7
SYMPTOM: Had a few visibly bad components. Replaced a few resistors and was only able to adjust G1 voltage. No meter response on any other setting.
CAUSE: Blown fuse F2.
SOLUTION: Replaced fuse F2 (½ amp slo-blo), calibrated, and tested working.

NOTES ABOUT THESE REJUVENATORS

There seems to be two revisions of the PCB these units use. Once apart, looking at the parts side, look right next to the large glass tube. On the B & K 467 manual and schematic, there is a diode labeled D20. On the second revision, in this spot is a resistor labeled R72 instead of a diode. On this version I noticed that there are various resistors that do not match the values in the schematic. When I found a bad part on these units, I had to replace by matching the value on the part rather than going by the schematic. Out of the 7 units listed here, plus my own, about 3 are this other revision. But still good to have the schematic to follow each circuit.

These units are now very old (around 1971 vintage). Pretty much about 100% of the non-working units had some, if not all the problems cured, by a reflow of all the solder joints on the complete PCB. Especially around the connector header pins. When looking for single problems that may have been colour related, check components that are in groups of 3. Whether it be 3 diodes in a row, 3 resistors, 3 transistors, or whatever. Except for transistors Q8, Q9, and Q10 which are part of the tracking circuit.